authorized to provide intrastate telecommunications services pursuant to state certificates of public convenience and necessity.[27] As discussed herein, Feature Group IP petitions the Commission to forbear from the enforcement of certain express and implied provisions of Section 251(g) of the Communications Act of 1934, as amended ("Act" or "Communications Act"), Rule 51.701(b)(1), and, where applicable, Rule 69.5(b).[28]

Feature Group IP contends that these provisions do not, at present, result in the imposition of interstate or intrastate switched access charges on IP-PSTN or incidental traffic, as defined herein. The ILECs – and in particular at&t – disagree. If these provisions can be read to result in application of access charges, the Commission must forbear from enforcing them for the reasons set out in this Request. Feature Group IP makes these requests pursuant to Section 10(c) of the Communications Act and Section 1.53 of the Commission's rules.[29]

The Commission should grant this Petition while it completes its work to develop a comprehensive, uniform intercarrier compensation regime. This will allow Voice Embedded communications, services and applications to develop with the cleanest slate possible, regardless of whether such communications occur wholly on an IP network or between an IP network and the PSTN. Forbearance with respect to these statutory and regulatory provisions meets each element of the three-pronged test for forbearance in Section 10(a) of the Communications Act. Forbearance will: (1) result in the needed

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[27] Feature Group IP has state licenses in many states but does not provide any intrastate services. The only active operations are in the state of Texas and expansion is on hold because of the difficulties described herein. UTEX Communications Corporation is active and does do business. Even though the Texas entity has a state certificate in the name of UTEX Communications Corporation it does not provide any intrastate service; all of its services and all of its traffic are related to a purely and solely interstate tariffed offering designed to facilitate the intercommunication of the Internet and the PSTN.

[28] 47 U.S.C. § 251(g); 47 C.F.R. § 51.701(b); 47 C.F.R. § 69.5(b).

[29] 47 U.S.C. § 160(c); 47 C.F.R. § 1.53.

business and legal certainty that Feature Group IP has diligently sought for nearly six years on these issues, (2) increase investment, (3) promote product and technology innovation, and (4) increase deployment of advanced services. Upon grant of this Petition, Voice-embedded IP-PSTN traffic would be exchanged between a LEC and a telecommunications carrier serving a Voice-embedded Internet service provider pursuant to Section 251(b)(5) of the Act and Subpart H of Part 51 of the Commission's rules, and Feature Group IP will be able to offer its flat rated intermediation services throughout the whole country.

Voice-embedded IP-PSTN communications represent the evolution away from traditional circuit-switched technologies, and provide more than a functional equivalent to circuit-switched voice telephony. They are a more flexible and powerful way to connect and manage voice communications and are also a necessary component of any IP-IP voice application that needs to receive or send communications to users on the PSTN. Voice-embedded IP, both IP-IP and IP-PSTN, allows a provider, *inter alia:*

- to uniquely identify users and user groups without the need for "phone numbers" thus extending the positive economic effect of Group Forming Networks to the users of the legacy PSTN;
- to integrate voice transmission with much more powerful data processing capabilities that then facilitate the offering of additional enhanced functionalities;
- to integrate voice, data and video applications;
- to detect a user's "presence" on a network;
- to route communications according to sophisticated user-specified preferences, including variations by time of day, calling party number, and any other parameter that can be defined through a computerized database; and
- to protect the privacy and safety of individuals by means of customized call screening and routing.

- to support "one-to-many" communications sessions, including the ability to "ring" several simultaneous edge devices using only one called party address, or to intelligently route call session requests to the appropriate edge device depending on user-supplied instructions.

- to support "many-to-one" communications sessions.

- to support "any-to-any" communications sessions (e.g., bridging various platforms and edge devices, including traditional telephones, such as a traditional land-line telephone engaging in a call session with a user of an instant messaging application like Skype or GoogleTalk.

- to support communications sessions that mix voice, video, text, or other data communication applications, voice call session interruption and an invocation of different network resources, such as retrieving real-time or stored information from the Internet (such as stock quotes, or driving directions). The user can initiate such a response by sending a SIP INFO request from a soft client, IP phone, or a key combination from a mobile or POTS phone (which is interpreted and translated into a SIP INFO request).

- to support talking email or text voice mail, using speech-to-text conversion or text-to-speech conversion.[30]

Moreover, because IP-based softswitch technology allows for decentralized direction and innovation, IP-originated and/or terminated voice services have seen and are likely to continue to see faster innovation than circuit-switched networks. Voice-embedded Internet communications will be an engine of innovation and growth, properly placing circuit-switched communications platforms logically underneath the superior Internet applications that provide a more useful communications experience for their users.

IP-PSTN communications undergo a "net protocol" conversion, and thus can be

[30] The potential list of enhanced functions is limitless. The ILECs want to pretend it is not true, but each of these enhanced functions can be offered to users on the PSTN unfortunate enough to still be tied to a traditional phone. The incumbents just do not have a vision on how to innovate or rapidly develop and deploy novel offerings that are driven by user – rather than network provider – control and choice. They therefore believe it does not exist. And they strive to kill any chance of it ever existing, unless and until they are the ones to decide to when, where and on what terms. You can bet it will involve billing by the minute and at an exorbitant price far above incremental cost.

classified as "Information Services" under existing FCC precedent. Protocol change aside, the more important aspect from a policy perspective is the capabilities that IP makes possible in terms of a change in content and the attendant enhanced functions that can follow. A favorable ruling on this petition would settle the question of whether access charges should apply to the circuit-switched portion of IP-PSTN and incidental communications when that traffic is exchanged between a LEC (such as an ILEC) and another telecommunications carrier (such as a CLEC) before or after the traffic reaches the information service provider ("ISP"). Moreover, even if this Commission, a state commission, or a court were to conclude that some Voice-embedded IP communications constitute "telecommunications services," granting this petition would further reaffirm that such traffic is to be exchanged on a co-carrier basis pursuant to Section 251(b)(5) and make clear that legacy switched access charges do not apply.

Such a reaffirmation has become timely and critical to Feature Group IP because at&t is asserting that access charges apply to such traffic even if the communication originates from a voice-embedded Internet communications application – even, for example, from an Xbox or PlayStation.[31] Further, at&t has initiated multiple active

[31] at&t has contended in deposition that XBox users should not be allowed to "call" the PSTN because they do not have phone numbers (CPN). While we suppose at&t might have some right to refuse to directly connect XBox users' traffic, we strongly object to at&t claiming that a CLEC also cannot be allowed to do so. In its direct testimony against Feature Group IP in Texas, at&t asserts that our incentives will be naturally to "cheat" and solely for that reason we should be required to pay access and prohibited from providing our service. at&t, in other words, wants to ban competitors from serving new technology customers on the ground that the competitors will be tempted to instead misroute traditional legacy telephone toll over "local" trunks. ILECs cannot be allowed to regulate their competitors in this fashion to the point that the competitors' business plan is effectively banned. If the FCC feels that our products designed to serve new technology are too susceptible to "cheating" to be left solely to "market forces" then the Commission can regulate us directly by requiring changes to our current Tariff. If the FCC decides to go this route, we suggest that the FCC also order ILECs to change their tariffs to require IXCs who purchase originating Feature Group D access to not claim an ESP exemption, or use an ESP on the terminating side. At the end of the day at&t is trying to turn the XBox into an IXC – or wall it off from the PSTN. The only thing in common between the two is the letter "X." The FCC has never desired to apply the 70 year old access charge regime onto new competitive technologies, and it certainly has never said

lawsuits against Feature Group IP and others to collect such charges retroactively and to collect revenues from multiple parties for the same, single communication. Grant of this Petition will reduce the ability for at&t to game the alleged ambiguity in the intercarrier compensation regime to impose crushing litigation costs on new entrants and maintain the current uncertainty – that the ILECs themselves created through, what we consider, spurious litigation – which will permit these innovative new Internet-based and IP-based applications and services to develop and grow without forcing them into the economic and regulatory constructs of the circuit-switched access charge system. Granting this petition also is appropriate because the Commission is considering adoption of a uniform intercarrier compensation regime to govern the exchange of all communications traffic, including "exchange access" traffic. Forbearance from the imposition of access charges on Voice-embedded Internet communications avoids shifting this traffic from exchange traffic subject to reciprocal compensation (today's *de facto* legal *status quo)* to exchange traffic subject to access charges, simply to shift this traffic yet again to exchange traffic under a uniform intercarrier compensation system. Grant of this Petition would not affect any other duties that Voice-embedded Internet providers, or carriers serving Voice-embedded Internet providers, may have under applicable state or Federal law, regardless of whether the Commission ultimately concludes that Voice-embedded Internet communications providers are "Information Services" providers or *bona fide* "telecommunications carriers."

We contend that at&t and its cartel partners are abusing their political and market

new technology cannot and should not be used. XBox and nearly each new technology device capable of voice communications simply do not need phone numbers, and the fact that they don't have them should not result in a ban or automatic imposition of access charges on companies like Feature Group IP who are creating ways to interconnect with new technologies and intermediate them with the legacy PSTN so as to extend intercommunication and provide enhanced functions to PSTN users.

power to impose new rules they – rather than the market or regulators – have contrived in a last-ditch effort to control the technology of the future and the evolution of communications networks, services and applications. Such unilateral control by a single industry player or industry segment with excessive market power stifles investment and innovation and prevents competition. Grant of this petition is not just good policy; it is required by the terms of the Act, particularly the mandatory forbearance requirements contained in Section 10.

III. SPECIFIC FORBEARANCE REQUESTED

Feature Group IP requests that the Commission, with respect to Feature Group IP and any other telecommunications carrier handling Voice-embedded Internet communications that involves one or more "legs" on the PSTN, forbear from enforcement of:

- Section 25 l(g) of the Act, insofar as it applies to the receipt of compensation for switched "exchange access, information access, and exchange services for such access to interexchange carriers and information service providers,"[32] pursuant to state and federal access charge rules;
- any limitation on the scope of Section 251(b)(5) that is implied from Section 251(g) preserving LEC receipt of intrastate switched access charges.[33]
- the clause of Rule 51.701(b)(1) that excludes from the definition of

[32] 47 U.S.C. § 251(g).

[33] Order on Remand and Report and Order, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Intercarrier Compensation for ISP-Bound Traffic*, WC Docket 01-92, FCC 01-131, 16 FCC Rcd 9151, 9168 (¶ 37 n.66), (Apr. 2001) (hereinafter "*ISP Remand Order*"), *rev'd on other grounds and remanded, WorldCom, Inc. v. FCC*, 288 F.3d 429 (D.C. Cir. 2002) ("*WorldCom*"). Throughout this petition, Feature Group IP will refer collectively to forbearance from the express terms of Section 251(g), as well as forbearance from this implied restriction on the scope of Section 251(b)(5) inferred from Section 251(g), as "forbearance from the enforcement of Section 25 l(g)." The Commission should reaffirm that Voice-embedded IP communications are inseparably interstate, rather than intrastate. If it does so this request for forbearance with respect to any limitation on the scope of Section 25 1(b)(5) with respect to intrastate access charges will be moot.

telecommunications traffic subject to the Subpart H of Part 51 of the Commission's rules "telecommunications traffic that is interstate or intrastate exchange access, information access, or exchange services for such access *(see* FCC 01-131, paragraphs 34,36,39,42-43);"[34]

- Rule 69.5(b), to the extent applicable;[35]
- Any "numbering representation rule" to the extent applicable
- Any signaling standard that requires or assumes a particular geographic reference point (such as a rate center) which could be used to support a billing platform to treat such traffic as ordinary "telephone toll" traffic.[36]

Feature Group IP requests forbearance with respect to traffic that is carried by a LEC on its side of the point of interconnection with a telecommunications carrier such as Feature Group IP and that:

- originates in IP format and terminates on the legacy TDM circuit-switched network; or
- originates on the legacy TDM circuit-switched network and is addressed to an IP-based end point;
- originates on the legacy TDM circuit-switched network and terminates on the legacy TDM circuit-switched network but (a) is connected to an IP-based platform during the call session and (b) as a result to use of the IP-based platform there is a change in content or non adjunct-to-basic enhanced functionalities are offered to the user; where
- when the point of interconnection between the LEC serving the voice-embedded Internet application or service provider and the LEC serving the PSTN user end-point is located in the same LATA as the PSTN end-point;

With the exception of incidental and *de minimis* "phone-to-phone" traffic,[37] calls

[34] 47 C.F.R. § 51.701(b)(1).

[35] 47 C.F.R. § 69.5(b). By requesting forbearance from Rule 69.5(b), where applicable, Feature Group IP does not concede that the rule is otherwise applicable to all of the traffic subject to this petition.

[36] Feature Group IP will endeavor to place on each call a unique Internet calling identifier called a UGT that it has invented and is working with Internet application providers to implement as this petition is filed. Such information is actually more useful than ordinary numbers for all conceivable public policy purposes.

[37] This incidental amount could be completely eliminated if the ILECs and IXCs simply changed their business practices to only purchase services from other carriers. Feature Group IP has done its part by excluding LECs and IXCs from the ability to purchase our new technology services. Our experience in the last five years shows some interesting things. First, the amount of incidental traffic is smaller each month as a percentage, and second, the largest complainer (at&t) is also the largest benefactor of such incidental

that do not undergo a net protocol conversion on an end-to-end basis and do not involve a change in content and/or an offer of non-adjunct-to-basic enhanced functionality would not be within the scope of this forbearance request.[38] Feature Group IP also requests that the Commission forbear from the enforcement of these same provisions of Section 251(g), Rule 51.701(b)(1), and, where applicable, Rule 69.5(b) with respect to incidental PSTN-PSTN traffic. Many applications could, for example, terminate to a customer as an IP-based application, but then could be "forwarded" to a particular user's mobile phone. In addition, an Internet user may "socially network" traffic onto and from the public switched network into and out of pure IP-to-IP platforms. There is no feasible way for such traffic to be segregated or distinguished from the customer's other PSTN-IP traffic, nor is it economically desirable for a Voice-embedded Internet application provider to monitor its customer's disposition of such traffic.

For the purposes of this petition, incidental "PSTN-to-PSTN" traffic does not

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traffic. The great preponderance of the traffic that originates on the PSTN is coming from at&t's IXC operations. Feature Group IP has publicly offered to assist any carrier in finding the originating source of any carrier that is "mis-routing" non-enhanced traffic as enhanced. To date, not a single carrier or Regulatory Commission actually has followed up with us to fix any "routing" problem.

[38] In other words, a communication that is delivered by a user to an IP network provider in IP form, and is terminated over the circuit switched PSTN, would fall within the scope of the requested forbearance even if the user employs customer premises equipment (such as Vonage's Multimedia Terminal Adapter) to convert a communication to and from analog form within the customer's own internal network. Further, a call originated over the PSTN and terminated on the PSTN that does not involve a change in content or an offer of enhanced functionality (e.g., the traffic found subject to access charges in Order, *In the Matter of Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, WC Docket No. 02-361, FCC 04-97, 19 FCC Rcd 7457 (Apr. 2004) ("*AT&T Declaratory Ruling*") would also not fall under this request. Nor would minimally enhanced functionalities the Commission has held are "adjunct-to-basic" in cases such as *AT&T Corp. Petition for Declaratory Ruling Regarding Enhanced Prepaid Calling Card Services, Regulation of Prepaid Calling Card Services*, WC Docket No. 03-133, 05-68, Order and Notice of Proposed Rulemaking, 20 FCC Rcd 4826 (2005) (*Calling Card Order and NPRM*), or the services held to be similar to those in issue in the *AT&T Declaratory Ruling* and the *Calling Card Order and NPRM* in *In the Matter of Federal-State Joint Board on Universal Service, Appeal of Administrator's Decision, Radiant Telecom, Inc.*, Filer ID 822268, CC Docket No. 96-45, DA 07-2922 (Jun. 2007) if the Wireline Competition Bureau's Order on Appeal is or becomes final. The non adjunct-to-basic enhanced functionalities that are covered by this request would be offered by entities other than the IXC that is the presubscribed or dial around IXC used to reach the enhanced platform on the originating end.

include traffic that originates and terminates in circuit-switched format *(i.e.,* no net protocol conversion) and that is exchanged between the calling party's LEC and another telecommunications carrier when the interconnected telecommunications carrier is the calling party's +1 presubscribed interexchange carrier or a carrier sponsored and sold calling card/dial-around carrier provider selected by the calling party.[39]

Feature Group IP is not seeking to have the Commission forbear from enforcing Section 251(g) as it applies to any potential obligation to compensate the LEC for use of LEC special access facilities. This petition extends only to forbearance from the application of switched access charges.

As noted above, while Feature Group IP is willing to accept denial of forbearance from enforcing Section 251(g), Rule 51.701(b)(1) and Rule 69.5(b) with respect to traffic exchanged between Feature Group IP and a LEC operating within the geographic service area of an ILEC that currently is exempt from Section 251(c) pursuant to Section 251(f)(l), if the Commission expressly enters certain findings. Feature Group IP recognizes that the inherent subsidy scheme of the current inter-carrier compensation scheme requires a different balancing of policy when it comes to LECs that are exempt from section 251(c) on account of section 251(f). Are allowing the positive competitive effects and network effects of applications like Skype in rural areas more important than the continued policies that support and subsidize wireline locally-focused ordinary phone communications when such service is provided in rural areas by independently owned rural companies? We think so, but we understand that there is an argument that this must

[39] By limiting this petition to IP-PSTN and incidental PSTN-PSTN traffic, this petition takes no position on whether access charges should apply. As noted above, Feature Group IP is not seeking forbearance from application of access charges to the type of traffic held to be non-exempt in the *AT&T Declaratory Ruling* or the *Calling Card Order and NPRM.*

be weighed. This is a clear public interest balance. If the Commission expressly finds that the needs of rural telephone companies for access-related subsidies predominates over the benefits that would accrue to rural customers from expanded access to advanced technology, we will accept that result.

There, however, is no question that the two giants, Verizon and at&t, which average more than $30 billion dollars in trailing 12-month EBITDA each, do not need and have no right to claim or extract financial support from new technology entrants. In addition, this Commission can pursue a case-by-case evaluation with respect to exempting rural areas without substantially impeding the introduction and development of Voice-embedded Internet communications throughout the rest of the country.[40]

In filing this request for forbearance, Feature Group IP is *not* conceding that it is otherwise appropriate to apply access charges to the traffic covered by this Petition, whether in exempt rural areas or elsewhere. To the contrary, as discussed further below, in order to conclude that ordinary access charges should apply to IP-PSTN and/or incidental PSTN-PSTN traffic, the FCC and the applicable state commissions would have to resolve a myriad of issues including: (1) whether the particular Voice-embedded IP communication is a "Telecommunications Service" or an "Information Service"; (2) if a "Telecommunications Service," then it must determine whether such service (in many

[40] Rural telephone companies, as defined in the Act, serve only about 13% of all lines, and not all rural companies remain exempt under Section 251(c). *See* Universal Service Administrative Company, First Quarter 2004 FCC Filing, Appendix HC05, "High Cost Loop Support Projected by State by Study Area" (appendix HC05 identifies 23,236,452 working loops in rural study areas and 158,500,642 working loops in non-rural study areas, for a total of 181,737,094 working loops; dividing the number of working loops in rural study areas by the total number of working loops demonstrates that rural loops represent 12.8% of all lines). Again we have suggested that a balance of policy interests (the interest of rural ILECs in continued subsidies and the interest of rural users in having access to advanced technology) is necessary. But the balancing must be done expressly and specific findings must be entered. That, at least, will shine some of the light on the amount of the subsidy and the Commission's thinking on how the interests can best be balanced.

cases it is not a "service" at all but rather an application residing in user's edge device or somewhere on the Internet) is then necessarily provided by a new type of "carrier"; (3) if all of the software developers who create and roll out Voice-embedded Internet applications and services that can intercommunicate with the PSTN (or the consumers that install and use them) are now deemed carriers, will they be afforded all of the other rights and benefits of carrier status, including the right to interconnect under sections 201, 251, 252 and 332 and if so what are the appropriate terms, conditions and prices for interconnection and traffic exchange that should apply and who should be the net winner;[41] (4) if these new providers are "deemed" carriers, what are the appropriate signaling and transport standards and "rights" to be created for this new type of traffic; and (5) whether these questions will be decided under the rubric of the 1996 Telecom Act or in some other way?

In short, this Commission and other regulatory bodies must address the public interest issues and technology issues Feature Group IP has been pursuing in Texas for more than five years and about which has yet to engage in a factual hearing. By eliminating the statutory and regulatory bases for imposing circuit-switched access charges on IP-PSTN and incidental PSTN-PSTN traffic, this Petition seeks to end the lengthy litigation and anti-competitive practices to which we have been subject for the last five years, and the attendant regulatory uncertainty, which is currently being used at state public utility commissions across the country as a tool to stifle competition by

[41] There is an economically sound argument that the Incumbent LECs should pay a new type of access charge to these new providers because it is their inventions that obviate the need for the Incumbents to invest in new technologies to allow for the interoperation of the old network to "talk to" the new technology users. It is not a given that these new types of putative "Carriers" and their traffic should be classified as IXCs or that they can be held to provide any "service" much less a telecommunications service. But it is clear once you remove your Bell-shaped hat that new technology networks, applications and services, when interconnected to old technology networks, make both networks more valuable.

CLECs and the ESPs and software and hardware developers that need some certainty in order to accelerate wide deployment of this new technology and the services and applications that the new technology enables.[42]

Finally, Feature Group IP is not seeking forbearance from the rules governing intercarrier compensation for ISP-traffic under the *ISP Remand Order* and *Core Forbearance Order*.[43] To the contrary, we seek either confirmation that this regime already applies to Voice-embedded Internet communications or forbearance so that the same treatment will result. Unless otherwise negotiated by the parties, the restrictions established by the *ISP Remand Order* as modified by the *Core Forbearance Order* would remain in place. As a practical matter, however, the relative use of facilities that handle both inbound dial-up ISP traffic and origination/termination of Voice-embedded IP communications will *shift,* as Feature Group IP delivers Voice-embedded IP communications traffic for termination over the same interconnection trunks that carry ILEC-originated, inbound dial-up ISP traffic to Feature Group IP. Moreover, all ILEC-terminated Voice-embedded IP communications traffic would be "originating" traffic for the purposes of applying any "3:1 ratio of terminating to originating traffic" to

[42] The ILECs' efforts rise to the level of a prohibition on deployment because of the cost of intercommunicating with the PSTN makes deployment uneconomic. The PSTN charges far outweigh the rest of the product costs. Feature Group IP believes that imposing access charges on these services and applications raises significant concerns and requires the application of the considerations set out in section 157:

> **SEC. 7. [47 U.S.C. 157] NEW TECHNOLOGIES AND SERVICES.**
> (a) It shall be the policy of the United States to encourage the provision of new technologies and services to the public. Any person or party (other than the Commission) who opposes a new technology or service proposed to be permitted under this Act shall have the burden to demonstrate that such proposal is inconsistent with the public interest.

[43] *Petition of Core Communications, Inc. for Forbearance under 47 U.S.C. § 160(c) from Application of the ISP Remand Order*, WC Docket No. 03-171, Order, FCC 04-241, 19 FCC Rcd 20179 (2004) ("*Core Forbearance Order*").

presumptively delineate ISP-inbound traffic from other traffic.[44] In essence, forbearance will ensure that traffic *to* the Internet will be treated the same as traffic *from* the Internet. There is absolutely no logical, policy or legal basis for non reciprocal treatment. ILECs consistently refuse to pay compensation for their originated but just as consistently demand compensation – almost always at access prices – for any traffic they terminate. But that does not make their demand for access payments reasonable or lawful.

In all areas subject to this Petition *(e.g., potentially* excluding exempt rural areas), the impact of grant of this petition would be as follows:

- all IP-PSTN and incidental PSTN-PSTN traffic exchanged by a LEC and Feature Group IP within the same LATA as the PSTN end-user would be exchanged on a "minute-is-a-minute" basis pursuant to Section 251(b)(5) or the *ISP Remand* rate over interconnection trunks pursuant to an interconnection agreement rather than access trunks; intercarrier compensation would be paid to the terminating carrier at the rates specified for Section 251(b)(5) or the *ISP Remand* rate pursuant to interconnection agreements;

- interstate and intrastate switched access charges would not (even arguably) apply to IP-PSTN and incidental PSTN-PSTN traffic, regardless of geographic end-points, because the Commission will have forborne from enforcing the relevant portions of Section 251(g), rules issued thereunder and the Commission's access charge rules; and

- rules for compensation for dial-up ISP-inbound traffic would not change.

Grant of this request for forbearance is required by Section 10 of the Act.

IV. BY FUSING DATA AND VOICE STREAMS, VOICE-EMBEDDED INTERNET APPLICATIONS CREATE INNOVATIVE NEW SERVICE OPPORTUNITIES AND GREATER EFFICIENCIES FOR TELECOMMUNICATIONS USERS AND INTERNET VOICE USERS.

[44] *ISP-Remand Order* 16 FCC Rcd at 9187-88 (¶ 79). Feature Group IP's originating traffic that is handed to other LECs for ultimate traffic is "ESP" traffic, but that should not change the way the 3:1 ratio would work in those interconnection agreements that include the ratio.

Voice-embedded Internet communication is a revolutionary, lifestyle-changing technology and, arguably, the most vibrant innovation to come into the American economy, the global economy, in decades, perhaps centuries. IP-based communications technology has broken the mold for wireline telephony and wireline telephony regulation. Wireless is beginning to follow. Voice-embedded Internet communications allow the seamless fusing of voice and data applications in a single environment, shattering traditional conceptions of communications.

Voice-embedded IP-based applications and wholly circuit-switched wireline and wireless services are moving starkly in different directions. The greatest distinctions between the two have now emerged. Entrepreneurs and programmers develop innovative applications that take advantage of Voice-embedded IP communication's flexibility and will support and encourage the formation of Group Forming Networks. The legacy networks need to keep groups from forming and becoming efficient in their use of communications to keep the existing billing paradigm alive. Additionally, other existing Internet voice applications also show the potential of unbridled IP-PSTN Voice-embedded IP communications:

- **Group Forming Networks** will be allowed to integrate the legacy PSTN to uniquely identify users and user groups without the need for "phone numbers," thus extending the positive economic effect of Group Forming Networks ("GFN") to the users of the legacy PSTN, all with no investment by the incumbents. Internet application creators and providers have just begun to tap into the social and economic impacts of GFNs. Feature Group IP is at the forefront of the intermediation of new technologies and the GFNs they represent and how such GFNs can interoperate by incorporating the old technology networks and their use and usefulness. The artificial partitioning and exclusion of GFNs from the PSTN will inhibit their development and limit their manifold economic and social benefits to society:[45]

[45] Feature Group IP's theory and operation of the Universal Tele-traffic Exchange "the UTEx" is available at http://www.featuregroupip.net/wp-content/uploads/Ex_Parte_Cover_Letter_and_UTEX_TS_01_1-03-

- **Innovative Tele-Working**. With Voice-embedded IP, employees are less tied to schedules and geographic brick-and-mortar offices.
    - For instance, a stay-at-home parent who works in technical support could use Voice-embedded IP to direct incoming calls to his home office between the hours of 8:00 a.m. and 3:00 p.m., while his children are at school. During that "on" period, he would use his broadband connection to receive tech support calls at home, with full access to customer and product data. Periodic workers, regardless of time of day or length of availability, could log on to the network and work flexible hours.
    - This flexibility will allow telecommunications-intensive companies to use part-time employees spread out across the *country*. For example, a call that originates in Denver for an airline may first go through a voice response unit owned by the airline. Based on *staffing,* call volume or other criteria that the airline selects, that communication may be sent *across* the country to a large call center or to part-time employees located in rural and urban areas.
    - A physician might use the same capabilities to respond to patient emergency calls at home, with full access to patient records stored in her office, and have the ability to alert the system that she is not available for calls (they would be routed to a colleague), or direct that the "call" be forwarded to a cell phone or wireless PDA.[46]
- **Multimedia and Cross-media Conferencing**. With Voice-embedded IP, multiple users can communicate with one another via voice and video, while drawing on data sources (spreadsheets, financial statements, etc.) simultaneously. IP-PSTN voice communications would support a flexible conferencing platform, allowing some attendees to participate via traditional circuit-switched devices (such as a wireless PDA, thereby combining circuit-switched voice, such as GSM, with Internet access over WiFi or GPRS), while others use voice and data capabilities embedded in an IP-capable desktop.
    - Workgroups and play groups that are geographically dispersed can work collectively on specific data-oriented tasks. As one example, an engineering team with expertise spread around the world can collaborate via voice and share data and documents in real time to revise design specifications.
    - A university board with trustees in different cities can meet efficiently and

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28-07-ST-FINAL.pdf. We are currently engaged in interoperating tests with providers of Internet-based voice communications services working on the evolution of Group Forming Networks. In theory, all GFNs – be they socially-, economically- or politically-based -- can become " voice-embedded." When they do. Feature Group IP's UTEx can be an intermediary between the old and the new, enabling users or members of the GFN to participate from the technology of their choice.

[46] *See, e.g.*, Juanita Ellis, *Voice, Video, and Data Network Convergence* (May 21, 2003), *available at* http://searchnetworking.techtarget.com (last visited Dec. 23, 2003).

effectively via videoconference (again, some in person, some on the phone, and others via computer). At the meeting, participants can collectively review charts, access databases, and compile reports, all in real time. Simultaneously, two or more of the participants can "instant message" each other or hold a separate and private voice conversation.

- A geographically dispersed family could meet to share family digital photos or videos of grandchildren performing in a school play, while exchanging comments as if they were together in person.
- Friends can also use the cross-media applications for entertainment, be it via appliance-based games such as Wii, Playstation, XBox,[47] or be it via application-based games.

- **High-Power Call Centers**. Voice-embedded IP communications allow entities providing customer service to offer more focused assistance to customers. For customers with broadband access to the Internet, companies can share data, instant messages, voice communications, and URLs in real time. For all customers, IP-based communications technology with a voice application allows the operator to receive the customer's voice communication and relevant customer data simultaneously. The operator can access case histories, account and credit information, inventory data, shipping info, and much more instantly and automatically at the exact moment the customer makes contact (whether by circuit-switched or IP device).

- **Unified Messaging**. Voice-embedded IP allows a user to have a single message platform for all types of communications. Rather than receive e-mail on a computer, voice-mail on the phone, faxes on fax machines, and pages on a pager, Voice-embedded IP can route them all to a single unified mailbox, and users can retrieve them all from a single point of contact, whether using an IP or a circuit-switched device. A voice-mail can be converted into text using voice recognition software, and an e-mail can be converted into a voice message. Users can organize, store, and prioritize these messages in the manner that suits them best, just like many computer users file e-mail messages in various folders, or screen e-mail messages from some senders and give high priority to others. Users can tell the network how, when and where they want to be notified – such as ensuring that a call from a doctor or teacher is routed to home, work, mobile phone or to computer desktop, depending on where a person is, the time of day, and if the particular devices are actually turned on.[48]

- **Expanded Call Management and Screening** Unlike the PSTN, which can handle

[47] XBox and PlayStation online gaming constitutes a kind of group forming network. An at&t witness testified in deposition as part of the Texas case that at&t will not allow XBox, for example, to connect to the PSTN because there is no standard telephone number associated with the application/device/service. at&t also responded in a request for admission as part of the federal case that an XBox voice session that included a PSTN end-point would be subject to access charges (presumably to the extent it would even be allowed).

[48] *See, e.g.*, Cade Metz, *The Return of VoIP* (Oct. 22, 2003), *available at* http://www.pcmag.com.

no more than two incoming voice calls at one time, Voice-embedded IP can manage limitless incoming voice calls, video feeds, and e-mails. Voice-embedded IP can handle these incoming communications in a variety of ways, depending on the user's preferences. The system can take a voice message, page the user, convert a voice message to text (or a text message to voice), route the communication to another end-point, or deliver the communication in another format. Moreover, Voice-embedded IP users can retrieve messages in one format (*e.g.*, text) while actively using another (*e.g.*, voice). Thus, while a PSTN user must wait until a call is completed to check on messages that came in while the call was underway, Voice-embedded IP allows users to convert those messages into text and retrieve them immediately or to play them in audio format on top of the ongoing connection. Expanded call management and screening also serves an important safety function. For example, victims of stalking can screen all calls from unrecognized phone numbers and forward them to the police or a security agency. Additionally, voice recognition capabilities can live inside the network and make the network more valuable, similar to how Google has made the surfing experience better tailored and more responsive to the specific user.

- **Availability Awareness**. On the PSTN, callers dial a number without knowing whether the party on the other end is available, whether the caller will have to leave a message, or whether the line will just ring and ring. Voice-embedded IP, by contrast, allows users to specify their availability. In other words, Voice-embedded IP customers can indicate that they are free for a voice conversation, for video-conferencing, for e-mail, for gaming, or that they are not available at all. Voice-embedded IP customers can also use this technology to wait until people are actually available to receive calls before contacting them, or to alert all attendees when everyone is available for a virtual conference."

- **Location Scheduling**. Voice-embedded IP users can create a daily location schedule (and update it anytime from anywhere) indicating where communications should be forwarded. In other words, an user could direct communications (of any form) to a mobile device during her commute, to her office during the day, to her brother's house during the holidays, and to a unified messaging center when she is eating dinner. As explained below, the user's configuration preferences stay with her wherever she may be when she accesses the network.

- **Simplified Relocation.** Voice-embedded IP makes moves and changes much less complicated and less expensive. For instance, to allow an employee using a circuit-switched phone to move offices, a company must map extensions, re-program special call-handling features, and activate new phone sets, and the employee's phone configurations have to be re-modified or re-customized. Voice-embedded IP simplifies the process. Employees moving to an office in another country (or, for that matter, families moving to another state) take their customized features with them automatically because Voice-embedded IP

configuration data is tied to the user rather than a physical extension.[49]

Feature Group IP is on the leading edge of intermediating Voice-embedded Internet communications with the PSTN and each other. We have devoted considerable resources to determine how the "inside" of the actual communication applications should and will work in the future. Recognizing that inter-network operation is crucial to new technology adoption, we have invented the Universal Tele-traffic Exchange (the UTEx), a novel carrier/Internet interconnection fabric that allows seamless inter-operation of the legacy PSTN with new technology telephony endpoints. Currently, there is no industry-standard method for passing endpoint addressing information that is not in the form of a North American Numbering Plan ("NANP") address commonly known as an E.164 address actively assigned to an operating carrier or Internet company.

Some service providers, for example Vonage and most cable operators, have attempted to solve this problem by forcing their IP endpoints to emulate PSTN endpoints through a formally assigned NANP number. This practice is sub-optimal for a number of reasons. First, whereas PSTN endpoints are addressed geographically, many IP telephony applications utilize functional endpoint addressing, a practice which enables a multitude of useful services. Assigning an arbitrary number of NANP numbers to an endpoint, however, is neither allowed nor tenable due to issues of number resource exhaustion. Second, IP endpoints tend to proliferate in ways that the PSTN cannot. Third, as Feature Group IP has learned from experience, emulation of NANP numbering on IP endpoints has provided at&t and other cartel members a critical entry point in which to attack the ESP with "Access Over Local" programs because they take the traditional number that is

[49] *See, e.g.*, Joe Hernick, *Telephony 101: Giving Voice to Your Network* (Oct. 2, 2003), *available at* http/www.nwc.com.

presented in signaling and match it with the called number and if the two numbers are not "local" to each other they attempt to assess access charges on the interconnecting CLEC.[50] Finally, PSTN emulation necessarily hinders the group forming properties that networks and users naturally seek to create because it embeds implicit assumptions about and tight control mechanisms around the technology to be made available and how it can be used.

The UTEx will provide all service providers a mechanism through which they can pass to the PSTN the native user identifiers of the originating network. The UTEx formalizes the notion in the concept of the Universal Global Title (UGT), which represents a unique endpoint address very similar to an email address. An intentional byproduct of this arrangement will be the facilitation and extension of network functions that are conventionally served by calling party number ("CPN") such as CallerID and call reversibility, in addition to other beneficial functions and services which have not yet been invented. The UTEx interoperates with all identity markers and make features and functions cross-platform capable.

The intrinsically decentralized nature of IP networking allows IP communications, including Voice-embedded Internet applications, to exceed legacy circuit-switched telephony in power and flexibility. An IP communications system reformats voice and data inputs and transmits them as a stream of packets over a digital data network, including the public Internet and private IP backbones. These packets can be directed to any location, whether an IP address or a telephone number, and at marginal differential cost. Individual IP packets are routed and flow to their destination independently, each

[50] *But see, AT&T Declaratory Ruling* note 92, which recognizes that even if access applies the interconnecting CLEC is a joint access provider, not the access customer. The IXC – if there is one – is the one responsible for access payments.

following the best path available. This means that the packets from a single communication may reach their destination along a variety of routes. On the destination end, the IP communications system resolves any problems resulting from packets arriving out of sequence (or not arriving at all) and reassembles them. An IP application may then convert the packets into voice sounds, or it may manipulate them into a different form – such as speech-to-text conversion. The voice packets may also be combined with other packets, such as those containing data, through a variety of applications like those described above.

Moreover, IP networks create and facilitate an exceptionally flexible, robust and decentralized (*e.g.*, edge-based) environment for developing and implementing new applications. In a circuit-switched network, development and deployment of new capabilities must be carefully controlled and centrally planned. Historically, this development has been performed only by a limited number of circuit-switch manufacturers, typically at a high per-module and per-switch cost. As a result, in order to induce those manufacturers to develop those new capabilities, they must have a deployment commitment from the small handful of very large ILECs. As a result, innovation on the circuit switched network is, for all intents and purposes, non-existent. IP networks break this mold. Call processing and applications are separated from the operation of the underlying network hardware, and can be developed at very low cost. In an IP network, intelligence can be stored anywhere or everywhere on the network, including in servers operated by a user at the first-mile "edge" of the network. Applications can be created for particular users, and loaded onto the servers serving those users, without embedding those same applications throughout the network.

Unlike circuit-switched telephone numbers used in conjunction with the PSTN, which bear a relationship to the location of the telephone, telephone numbers used in conjunction with Voice-embedded Internet communications have no mandatory dependence on geography. In fact, for many voice-embedded Internet applications, trying to create a unique map between telephone numbers and geographic locations would severely impair the operation of the application itself. Nowhere is this more obvious than when dealing with GFNs. For example, suppose GFN "MySpace" wished to enable voice calling "out" by loading a click-to-dial application. The originating call may represent one or many users, and may physically originate from diverse networks in a dynamic manner. Inferring a user's geographic location based on the exchange with which a particular telephone number is assigned is futile with respect to numbers used for IP communications. Even ILECs recognize as much. "It's hard to determine jurisdictionally where that IP end-point is," says a Verizon executive. "You don't know if it's next door, across the state or around the world."[51]

This lack of geographic specificity on the IP end of the call is inherent in IP technology. IP communications do not follow dedicated circuit paths through the network. Rather, IP communications take multiple paths through many different IP networks, and they are reassembled only at the termination point (or, in the case of a communication terminating on the PSTN, at the media gateway). An IP address itself can change its geographic location without necessitating any change in the network. Circuit-switched engineering models that assume that the endpoints can be documented and traced through a network are technically inapplicable to IP networks.

[51] Glenn Bischoff & Vice Vittore, States Push to Regulate Voice as Voice, TELEPHONY, Sept. 22, 2003, at 8-9 (quoting David Young, Director of Technology Policy, Verizon Communications).

Early VoIP service providers such as Vonage adopted PSTN emulation to enable interoperability. These users have interconnected with circuit-switched facilities in a variety of different ways, and a variety of different entities will perform the protocol conversions. Some Voice-embedded Internet service providers will perform the IP-to-circuit-switching protocol conversion at a media gateway, and then connect from the gateway to a LEC using business line services such as ISDN-PRI. Others may perform the IP-to-circuit-switching protocol conversion and then transmit the communication over a CLEC trunk running from the media gateway to a point of interconnection with another LEC. The Voice-embedded Internet service provider may perform the protocol conversion, or it may contract the conversion out to a third party (perhaps another Voice-embedded Internet service provider that may or may not be affiliated with a CLEC).

Promoting GFNs. More important to policy now is how GFNs are now evolving to incorporate Voice-embedded IP capabilities. The inherent flexibility of IP communications also means that the service provider model has been thrown out the window in favor of new, more powerful and different business models. Ooma, for example, is a new Voice-embedded Internet communications business model that uses the GFN as its own supplier on a peer-to-peer basis. With peer-to-peer, the network interconnections are arranged by the peering users themselves, interconnecting the Internet with the PSTN in much the same manner as might occur with a "leaky PBX,"[52] except that the "leaky" traffic would be drawn from the entire Internet.

[52] A "leaky PBX" is a scenario in which PBXs do not pay access charges on long-distance calls because the network does not recognize the calls originating from a PBX as long-distance. The "leaky PBX" situation typically arises where large users with multiple PBXs in multiple locations lease private lines to connect their various PBXs. Although these lines were intended to permit employees of the large users to communicate between locations without incurring access charges, some large users permitted long distance calls to "leak" from the PBX into the local public network where they were terminated without incurring access charges.

Ooma extends the use of the "leaky PBX" to create "interconnection" with the "PSTN." This "technical work-around" is created only because it is needed. It is needed only because there is no other way to accomplish the goal. There is no other way only because the monopolies have barred entry and use of the new technology with respect to GFNs unless the GFN agrees to pay for use of the PSTN on a per minute basis – which then requires a business plan that mimics ordinary phone service.

In order to allow GFNs to truly thrive, their cost structures must be defined and the cost cannot be so excessive that deployment is retarded or prevented. The ILECs want the cost of communication to stay high when their network is involved. They are attempting to tax competitors and interconnecting carriers and their users that have the temerity to use alternative products to those sponsored by the incumbents. The cost they seek to impose will, if allowed, severely retard deployment.

Feature Group IP is out front attempting to break through the artificial barriers being erected by the ILEC cartel. In our world, there are no measured charges as between providers for interconnection or traffic exchange. A network is built, and interconnected, and usage is encouraged. GFNs are more valuable the more they are used. The business model is completely changed to one that empowers users rather than holding them captive and rigidly controlling and metering all permitted uses.

V. UNLESS THE COMMISSION FORBEARS, VOICE-EMBEDDED INTERNET APPLICATIONS WILL SUFFER FROM LEGAL AND MARKET UNCERTAINTY REGARDING IP-PSTN INTERCARRIER COMPENSATION.

Unless forbearance is granted, Feature Group IP and every other entrant focusing

on new technology and enabling voice-embedded Internet communications will be chilled from entering the market or otherwise offering voice-embedded IP applications to GFNs and other potential consumers.[53]

Section 251 of the Act, which covers LECs' interconnection obligations, takes a two-layered approach to intercarrier compensation arrangements. First, Section 251(b)(5) establishes a default compensation system that obligates all LECs (competitive and incumbent) "to establish reciprocal compensation arrangements for the transport and termination of telecommunications" with other telecommunications carriers.[54] As the Commission recognized in its *ISP Remand Order*, this section alone "would require reciprocal compensation for transport and termination of all telecommunications traffic," without exception.[55]

Second, as the Commission explained in the same order, Section 251(g) "explicitly exempts certain telecommunications services from the reciprocal compensation obligations" of Section 251(b)(5).[56] Section 251(g) states:

> On or after the date of enactment of the Telecommunications Act of 1996, each local exchange carrier, to the extent that it provides wireline services, shall provide exchange access, information access and exchange service for such access to interexchange carriers and information service providers in accordance with the same equal access and nondiscriminatory interconnection restrictions and

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[53] Attached hereto as Appendices B, C, and D are pre-filed testimony of Feature Group IP executives dated October 15, 2007, in Texas PUC Docket No. 33323, a proceeding to determine whether Feature Group IP has to pay in full what we contend are trumped-up, non-cost-based and unjustified bills by at&t, which are designed to capture traffic from Voice-embedded Internet communications applications. It is important to recognize that in the Texas proceeding, at&t *has failed to provide* any actual originating detail call records from a single Legacy IXC. In essence, at&t wants a bond in excess of four million dollars posted for Feature Group IP/UTEX to seek due process rights to demonstrate that the bills had no merit because they charge for Internet calls. Importantly, the only service Feature Group IP provides is PSTN intermediation between IP-enabled voice services and applications and legacy networks. In essence, at&t is dragging every new technology provider through this procedure, which, to a debilitating degree, increases the cost and uncertainty of doing business and offering innovative IP-based voice services to would-be users.

[54] 47 U.S.C. § 251(b)(5).

[55] *ISP Remand Order*, 16 FCC Rcd. at 9166 (¶ 32) (emphasis in original).

[56] *Id.*

> obligations (including receipt of compensation) that apply to such carrier on the date immediately preceding the date of enactment of the Telecommunications Act of 1996 under any court order, consent decree, or regulation, order, or policy of the Commission, until such restrictions and obligations are explicitly superseded by regulations prescribed by the Commission after such date of enactment. During the period beginning on such date of enactment and until such restrictions and obligations are so superseded, such restrictions and obligations shall be enforceable in the same manner as regulations of the Commission.[57]

The Commission has concluded that "Congress preserved the pre-Act regulatory treatment of all the access services enumerated under section 251(g)."[58] This specifically includes the authority to set interstate access rates.[59] The Commission has also, in dicta, stated that Section 251(g) implies a parallel exemption from Section 251(b)(5) for intrastate access charges.[60] As discussed further below, however, the plain text of Section 251(g) clarifies that these express and implied exemptions from Section 251(b)(5) for interstate and intrastate access traffic are temporary, and that the FCC may supersede them.[61]

The Commission's reciprocal compensation regulations, contained in Part 51, Subpart H, reflect this statutory structure.[62] In keeping with Section 251(b)(5), Commission Rule 51.703(a) requires "[e]ach LEC [to] establish reciprocal compensation arrangements for transport and termination of telecommunications traffic."[63] Consistent with the construction of Section 251(g) outlined in the *ISP Remand Order*, however, Rule

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[57] 47 USC 251(g).

[58] *ISP Remand Order*, 16 FCC Rcd. at 9169 (¶ 39).

[59] *See id.*, 16 FCC Rcd. at 9167 (¶ 36 & n.63). Feature Group IP restates its position that if access does somehow apply then given the interstate character of the Internet only interstate rates, and not intrastate rates can be used

[60] *See id.* at 9168 (¶ 37 n.66).

[61] 47 U.S.C. § 251(g). The *Worldcom* court held that section 251(g) did not apply to CLECs because they did not exist that the time. If one accepts this proposition (as does Feature Group IP) then the traffic in issue is clearly covered by section 251(b)(5) and the cost standard for transport and termination set out in section 252(d)(2) applies. Access is not even an available option as a matter of law.

[62] 47 C.F.R. Part 51, Subpart H.

[63] 47 C.F.R. § 51.703(a).